

### REMARKS

Applicants respectfully request reconsideration and allowance of their reissue application.

The present Office Action would appear to suggest an oversight because box 5 would imply that “claims 22-40, 42-52-56 and 57 is/are allowed” whereas the body of the Office Action reports rejections. Applicants have proceeded on the basis that the body of the Office Action reflects the Examiner’s intent.

#### **The claims, including the amended and new claims**

The claims are supported by the original specification and there is no new matter.

Amended proposed reissue claims 22 and 23 are presented with underlining pursuant to 37 CFR 1.173(d).

Amended claims 22 and 23 include recitation that the oil soluble molybdenum compound is free of phosphorus and free of active sulfur.

Amended claims 22 and 23 refer to the composition being free of supplemental antioxidants. This is supported in the specification at column 3, lines 16-19 and column 7, lines 46-48.

Amended claim 22 refers to the oil soluble molybdenum compound being present in an amount to be effective as an antioxidant. The amended claim finds basis in the specification as a whole, including column 15, lines 11-53. As the specification describes, an amount of oil soluble molybdenum compound of about 52 ppm (Table 5) showed a high viscosity increase in the stability test, which means that it was comparatively unstable and prone to oxidation. This evidence is germane because the PCT WO95/07962 (“Richie”), cited by the Examiner in the Office Action at the bottom of page 8, mentions use of 40 ppm of a molybdenum compound in Example 7.<sup>1</sup> The amount in the “Ritchie” Example 7 would not

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<sup>1</sup> The “Richie” reference is the PCT counterpart of “Ritchie” U.S. Patent No. 5,994,277. The “Ritchie” references report comparatively poorer, unacceptable, results for Example 7 versus their copper-containing three component systems. The “Ritchie”

have suggested the subject matter of claim 22 in which the amount of oil soluble molybdenum compound is stated as being an amount to be effective as an antioxidant.

Pending dependent claims 30 and 33-40 relate back to claim 22 or 23. These dependent claims define the oil soluble molybdenum compound. For instance claim 30 names species of molybdenum carboxylates.

New claim 58 depends from claim 22 and states the oil soluble molybdenum compound is a molybdenum carboxylate or an organic amide molybdenum complex.

New claim 59 depends from claim 22 and states the oil soluble molybdenum compound is present in an amount of at least about 104 ppm, which is supported by the specification at column 15, lines 11-53.

New claim 60 depends from claim 22 and states that the oil soluble molybdenum compound is present in an amount of at least about 156 ppm, which is supported by the specification at column 15, lines 11-53.

New claim 61 depends from claim 22 and states that the oil soluble molybdenum compound is present in an amount of about 468 ppm, which is supported by the specification at column 15, lines 11-53. The specification discloses amounts of the oil soluble molybdenum compound greater than 450 ppm.

New claim 62 depends from claim 22 and recites various supplemental antioxidants. It finds basis in the specification at column 7, lines 43-46.

New claim 63 depends from claim 23 and recites various supplemental antioxidants. It finds basis in the specification at column 7, lines 43-46.

**Substantially-free of active sulfur**

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references conclude “[t]he results show that the three component anti-oxidant system ... gives an oxidation inhibition greater than that predicable from the results obtained for the individual components, or combinations of two of the components.” Clearly, the Ritchie group did not recognize the results obtainable with the subject matter claimed in the present application for reissue.

Although now largely moot due to the amendments presented above, it is important to correct the record. The Office Action at page 6 in bold face type presents the assertion that ‘substantially free’ of sulfur means “the molybdenum compound contains less than 0.5% **(50000 ppm)** by weight of the material in question.” (Emphasis supplied).

This is simply mistaken.

The specification states at column 3, lines 37-40 “[b]y substantially free we mean that the molybdenum compound contains less than 0.5% by weight of the material in question, *e.g.* active sulfur which is generally an insufficient amount to add significantly to corrosion.” Mass conservation means the amount of active sulfur can not exceed the amount of molybdenum compound, especially since substantially free of active sulfur means the molybdenum compound contains less than about 0.5% by weight of active sulfur.

As to claim 22, the amount of oil soluble molybdenum compound is based on the disclosure in the specification, including column 3, column 5, column 8, and column 15, among other passages. The claimed lubricating composition simply cannot have 50,000 ppm of active sulfur, since the amount of active sulfur would then exceed the amount of the molybdenum compound.

Similar analysis applies to claims depending from claim 22, including the new claims 58-62.

As to claim 23, the amount of oil soluble molybdenum compound is about 100 ppm to about 450 ppm. The 0.5% by weight of about 100 ppm to about 450 ppm of molybdenum compound cannot provide 50,000 ppm active sulfur.

Similar analysis applies to claims depending from claim 23, including new claim 63.

#### **Art Teaches Active Sulfur**

The references of record suggest that the art was using or teaching sulfur-containing compounds. Indeed, as will be explained more fully below, art of record suggests that those skilled in the art would have had a further motivation towards the active sulfur compounds because of “synergy.” These teachings individually and collectively *teach away* from the present claimed inventions.

For instance, U.S. Patent No. 4,330,420 of White was shown to the Examiner during the personal interview in the parent reissue application. In the White reference, about 0.2 to 4.0 weight percent of sulfurized polyolefin antioxidant in combination with certain specified ingredients is disclosed. This reference teaches those skilled in the art to use formulation and additive packages “containing synergistic amounts of sulfurized polyolefin antioxidants ...” (emphasis added). The White reference further states that in “some oxidation stability cannot be achieved by merely adding more biphenyl amine,” which teaches away from the present invention.

It was pointed out in the parent reissue application that the PCT International Application WO 95/07963 to Shaub was published on March 23, 1995, only eight months before the filing date for the original patent application herein. It is a contemporaneous publication and was of record during patent prosecution of the original patent grant. The Shaub reference clearly teaches the ordinary skilled artisan to use active sulfur-containing compounds of its general formula 1, wherein  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$ , may be the same or different, and each represents a  $C_7$  to  $C_{24}$  hydrocarbyl radical, X and  $X^1$  may be same or different and independently represent S or O, and the molybdenum cation is in an oxidation state of 5+ or less. No matter what X or  $X^1$  is, the molybdenum cation is bonded at least thrice to sulfur atoms, which are not in the highest oxidation state. This reference therefore teaches the use of active sulfur, which is the antithesis of the present claimed inventions.

The Shaub reference refers to Molyvan® 822 product at page 4. According to the Shaub reference, the Molyvan® 822 brand product contains active sulfur.

It is noted that the April 1986 Technical Data Sheets for the Molyvan® 822 brand product (see June 19, 2000 Supplemental Disclosure Statement in the parent reissue) states “MOLYVAN 822 is a unique molybdenum-sulfur combination in an oil-soluble form.” The Molyvan® 822 technical data sheets teach away from the present invention.

Also, the Technical Bulletin 941 disclosed by applicant also refers to the Molyvan® 822 product as having an unknown proprietary formula. The undisclosed proprietary formula would have led a person of ordinary skill in the art away from the reissue claims because there is no suggestion of being free of active sulfur in the Technical Bulletin.

The cited de Vries et al. reference actually teaches away from the reissue claims. The de Vries et al. reference teaches antioxidant combinations of sulfur containing molybdenum complexes. See de Vries et al., Title to U.S. Patent No. 4,394,279. The de Vries Abstract refers to “a sulfur containing molybdenum compound.” The de Vries et al. reference further discloses combining “(a) sulfur containing molybdenum compound ...” with “(b) an aromatic amine compound.” See de Vries et al., column 1, lines 47-52. References to sulfur-containing molybdenum complex (or compound) elsewhere pervade the de Vries et al. reference. See, e.g., de Vries et al., column 1, lines 55-66; column 2, lines 1-3; column 2, lines 15-42; column 5, lines 41-46; column 8, lines 15-19; column 8, line 65 - column 9, line 23 (Example 1, 1.36% sulfur) column 9, line 24 to column 9, line 9 (Example 2, 3.75% sulfur); column 9, line 50 to column 10, line 5 (Example 3); column 10, lines 6-48 (reporting the use and testing of the sulfur-containing molybdenum complexes per Examples 1-3). The de Vries et al. reference uses carbon disulfide in the preparation of its required sulfur containing compounds and the disulfide means the sulfur is divalent - active sulfur - which teaches away from the present reissue claims.

Another reference discloses the use of a two-component system including a dithiocarbamate functional group, a phosphate functional group and a copper compound. See, e.g., Thorsell et al., U.S. Patent No. 4,648,985, at column 6, lines 49-52. The copper compound teaches away from the present invention. The copper dithio carbamates disclosed in the Thorsell et al. reference include active sulfur and thus teach away from the present claimed inventions. The molybdenum compound in column 7 includes phosphorus and that expressly teaches away from the claimed inventions. Furthermore, the Thorsell reference repeatedly refers to asphalt penetration or asphalt cutback, such as in Example 1 at column 9, line 47, Example 2 at column 9, line 58, Example 3 a at column 9, line 66, Example 4 at column 10, line 11, Example 5 at column 10, line 26, Example 6 at column 10, line 36, Example 7 at column 10, line 59, Example 8 at column 10 line 59, and Example 9 at column 11, line 4, which would all appear to another teaching away from the present invention. Applicant furthermore respectfully submits that the focus on extreme pressure lubricants - see column 1 - suggests that Thorsell should properly be deemed non-analogous art.

only require  
no compound  
to be free of  
sulfur

Yet further, the Examiner cited the Ritchie document actually motivates towards the copper compounds, including sulfur-containing compounds. This direction to copper compounds is seen from the discussion following Example 7.

Finally, U.S. Patent No. 4,765,918 to Love et al. issued in 1988, which is approximately contemporaneous with the Hunt reference (1989). The Love et al. reference teaches a sulfur-containing reaction product.

#### **The non-statutory double patenting rejection**

A terminal disclaimer will be filed upon withdrawal of the other rejections.

#### **The Claimed Inventions Would Have Been Unobvious**

- A. **Claims 22-23, 25, 45-52, 56-57, and new claims 58-61, define unobvious inventions over the improper combination of the Thorsell reference, an alleged admission, and the DeVries reference.**

First, there is no admission of a prior art teaching of motivation as characterized in the Office Action. The Applicants made no admission of prior art in their specification, and merely including written description of *their* invention legally and factually cannot amount to an admission of prior art teaching to vitiate the sulfur teachings in each of the Thorsell and DeVries references. As the Federal Circuit has stated:

“To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction – an illogical and inappropriate process by which to determine patentability.”

Sensorics, Inc. v. Aerosonic, 81 F.3d 1566 (Fed. Cir. 1996). That is precisely what has happened in the present case. There are no cited prior art patents or references to support a critical element to the rejection. Instead, the Office Action cites Applicants’ own specification against them in contravention of well-established precedent from the Federal Circuit.

Second, the cited prior art references themselves are evidence of unobviousness, not the converse. The DeVries reference affirmatively teaches active sulfur-containing complexes. In particular, it discloses an antioxidant composition that calls for an active sulfur containing molybdenum compound prepared by reacting an acidic molybdenum compound, a basic nitrogen disulfide compound and carbon disulfide. The Thorsell reference similarly teaches away from the claimed inventions. The Thorsell reference affirmatively teaches active sulfur compounds, viz., copper dithiocarbamate.

Third, the Office Action reads information into the Thorsell reference beyond what would be a fair reading of the reference. At page 5, the Office Action pontificates that Thorsell's singular reference to "high molecular weight amines", citing column 9, lines 33-34 means diaryl amine. There is no reference to diaryl amines as in claim 22 or claim 23. It is simply inappropriate to rely on an ill-defined genus to assert obviousness against a species or sub-genus not even disclosed in the reference. See, e.g., In re Baird, 16 F.3d 380 (Fed. Cir. 1994) ("the fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that claimed compound obvious."); In re Jones, 958 F.2d 347 (Fed. Cir. 1992) (prior case did not support the PTO's proposed rule that regardless of however broad, a disclosure of a chemical genus renders obvious any species that happens to fall within it.). Speculating what might be in a reference is not a substitute for the facts required in any analysis under 35 U.S.C. 103(a). The Examiners have not supplied an Examiner's affidavit or Examiner's declaration to show where the reference teaches what it does not disclose.

Fourth, the Thorsell reference refers to a two-component system at column 6, line 46 *et seq.* The two-component system requires the presence of phosphorus as seen from the column 7 description of the phosphorus containing "metal organophosphate," which effectively teaches against the present claimed inventions. The dithio carbamate mentioned in column 7, starting at line 47 similarly teaches away from the claimed inventions. In such circumstances, even if, *arguendo*, the Office Action properly interpreted the Thorsell reference at column 9, which it does not, the resultant teaching still would not have

suggested, taught, motivated or led a person of ordinary skill in the art to the present claimed inventions.

Fifth, the Thorsell reference would not have suggested an engine oil (*e.g.*, a lubricating composition for an engine) to a person of ordinary skill in the relevant art, nor would it have suggested a method for lubricating an engine comprising adding a lubricating composition according to either claim 22 or claim 23 to the engine. The Thorsell reference would not have suggested an engine lubricated by adding a lubricating composition according to either claim 22 or claim 23 to the engine.

Sixth, while the effort to reconstruct the claimed inventions by selecting different pieces from prior art references, to the exclusion of the art as a whole, reflects care, it does nonetheless reflect hindsight, which is not permitted. The Office Action seems to reflect this approach, especially since the analysis first takes information as outlined in the present specification and then applies it retroactively - based on the direction supplied by the present specification - to reject the claims. This impermissible use of the specification is exemplified by the 'alleged admission' arguments that permeate the Office Action.

**B. The "Ritchie" reference would not have taught a two-essential component system having antioxidant capability in which the oil soluble molybdenum compound was present in an amount capable of being effective as an antioxidant.**

The Ritchie reference, as discussed previously, would have suggested, taught, or motivated a person of ordinary skill in the art towards using a copper compound, such as the sulfur compounds in the Thorsell reference, since Ritchie et al. essentially denigrated the results obtained in their Example 7 (USP 5,994,277 at column 13, corresponding to cited PCT publication). Ritchie et al. explicitly taught they could not obtain useful results with 40 ppm of an oil soluble molybdenum compound in combination with a diaryl amine in a lubricating oil. They certainly did not foresee the results obtained by present Applicants. Instead, Ritchie et al suggested their three component system with effective amounts of a copper compound (*e.g.*, effective antioxidant amounts of a supplemental antioxidant) was the way to go. Indeed, Ritchie et al. teach a ratio of their required effective amount of a supplemental antioxidant



(e.g. the oil-soluble copper compound) to oil-soluble molybdenum compound (column 3, lines 49-51), which is yet another teaching leading persons of ordinary skill away from the present invention. In this regard, Ritchie et al incidentally taught they preferred only 5 to 50 ppm of the molybdenum compound (column 3, line 48), which would itself have led away from the present claimed inventions.

Ritchie et al. also said their results with the copper containing system would not have been foreseen, which effectively *factually* vitiates any basis for the allegation of “routine experimentation” (Office Action, page 8), which allegation also violates 35 U.S.C. 103(a) (last sentence). *See, e.g., In re Cormany*, 407 F.2d 900 (CCPA 1969) (acknowledging allegations of routine experimentation are not adequate for an obviousness rejection); *In re Tomlinson*, 363 F.2d 328 (CCPA 1966) (arguments by Examiner and Board that it would be routine experimentation “simply...begs the question”); *In re Fay*, 347 F.2d 597 (CCPA 1965) (reversing rejection relying on routine experimentation, noting that the statute provides that patentability shall not be negated by the manner in which was made).

Ritchie therefore effectively teaches away from the present claimed invention.

**The new matter rejections are mis-placed and should be reconsidered.**

The Office Action devotes several pages to partial quotations from the specification, which Applicants acknowledge, but nonetheless Applicants respectfully submit that the Office Action elides over the specification as a whole.

When properly read, the specification discloses that Applicants had possession, as of their effective filing date, of the subject matter as claimed. All that the statute calls for is that the specification reasonably convey to a person who is actually skilled in the art that inventors had possession of the invention as claimed. *In re Edwards*, 568 F.2d 1349, 1351-52 (CCPA 1978) (“to comply with the description requirement, it is not necessary that the application describe the claimed invention *in ipsius verbis*; all that is required is that it reasonably convey to persons skilled in the art that, as of the filing date thereof, the inventor had possession of the subject matter later claimed by him.”). Contrary to what may be implied by the Office Action’s selective and incomplete quotations from the specification, the statute does not

require *in ipsius verbis* correspondence between the specification and the claims. *Id.* Thus, it is respectfully submitted that the assertions in the Office Action of a ‘conflict’ with claims, the granted original patent, etc. are factually inaccurate, but more than that are nothing more than a supple, but legally inapposite strawman argument.

First, the specification does, in fact, provide a written description of the lubricating compositions as claimed in an enabling manner. The specification even includes a series of examples to show the advantageous results obtained. Clearly, at column 15, an oil soluble molybdenum compound is used in an amount greater than the ppm ranges in the parent patent, now reissued and presumptively valid (35 U.S.C. §282) over the very art now urged by the Examiners.

Second, the Office Action also mis-quotes the specification. At page 11, the Office Action uses bold type to quote the fourth full paragraph from Applicants’ specification at column 6, lines 47-56. The Office Action neglected to place that paragraph in context. In context, the fourth full paragraph actually describes for those skilled in the art that Applicants had possession of their invention as claimed because, with reference to the exemplary amounts of diaryl amine, the fourth full paragraph provides literal antecedent support for the reissue claims that refer to a ratio of oil soluble molybdenum compound(s) to the diaryl amine compound(s). This is immediately clear to any reader because the third full paragraph, which the Office Action conveniently omitted, concerns exemplary amounts of diaryl amine in a “lubricating composition” (column 6, third full paragraph). Thus, when read properly, even the passages relied upon in the Office Action defeat the rejection.

Third, there is no statutory requirement that Applicants claim the invention as the Examiner’s themselves subjectively would have claimed it as if they were the inventors. Section 112, paragraph 2, specifically states that it is the Applicants who are to claim the invention as they regards it. That is what Applicants have done.

Fourth, the corollary is that Applicants are entitled to claim their invention using different words, and are not prisoner’s of some rigid formulaic tied to literal words in the specification, nor are they statutorily wedded to the very language in the claims in their parent reissue patent. Even the Supreme Court has admonished against such wooden reading of the

patent laws, claims and the specification as seen from the 1950 Graver Tank decision and the 2001 decision in Festo.

Fifth, the reissue statute commands liberal interpretation as it is expressly predicated on an applicant being able to remedy a defective patent, which defect may simply be that the patent did not claim all that the inventor had a right to claim.

**Conclusion**

The claims define unobvious subject matter and are supported by the specification.

Applicants respectfully solicit reconsideration followed by favorable action. As mentioned above, a terminal disclaimer will be submitted upon indication that the other rejections have been (or are being) withdrawn.

If the Examiner has any questions, please contact the undersigned.

Notice to the above effect is earnestly solicited.

Respectfully submitted,

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**APPENDIX**

Reissue Claims in this amendment:

Amended claims 22 and 23 to be added in this reissue application now read:

22. A lubricating composition comprising:  
a major amount of lubricating oil,  
at least one oil soluble molybdenum compound that is free of phosphorus and free of  
active sulfur, and  
at least one oil soluble secondary diarylamine,  
wherein the ratio of said oil soluble molybdenum compound relative to said oil  
soluble secondary diaryl amine is about 0.02 to 0.6 parts by weight molybdenum compound  
per part of said secondary diarylamine, said oil soluble secondary diarylamine is present in an  
amount of about 750 to about 5,000 parts per million of said lubricating composition, said oil  
soluble molybdenum compound is present in an amount to be effective as an antioxidant, and  
said lubricating composition being free of supplemental antioxidants.

23. A lubricating composition comprising:  
a major amount of lubricating oil,  
at least one oil soluble molybdenum compound that is free of phosphorus and free of  
active sulfur, and  
at least one oil soluble secondary diarylamine,  
wherein the ratio of said oil soluble molybdenum compound relative to said oil  
soluble secondary diaryl amine is about 0.02 to 0.6 parts by weight molybdenum compound  
per part of said secondary diarylamine, said oil soluble molybdenum compound is present in  
an amount of about 100 to 450 parts per million of said lubricating composition, and said  
lubricating composition being free of supplemental antioxidants.

Claim 24 is canceled.

New claims to be added in this reissue application are:

58. A lubricating composition according to claim 22, wherein said oil soluble molybdenum compound is a molybdenum carboxylate or an organic amide molybdenum complex.

59. A lubricating composition according to claim 22, wherein said oil soluble molybdenum compound is present in an amount of at least about 104 ppm.

60. A lubricating composition according to claim 22, wherein said oil soluble molybdenum compound is present in an amount of at least about 156 ppm.

61. A lubricating composition according to claim 22, wherein said oil soluble molybdenum compound is present in an amount of about 468 ppm.

62. A method according to claim 22, wherein said supplemental antioxidants include a member selected from the group consisting of sulfurized phenols, sulfurized olefins, dialkyl dithiocarbamates, and phenothiazines.

63. A method according to claim 23, wherein said supplemental antioxidants include a member selected from the group consisting of sulfurized phenols, sulfurized olefins, dialkyl dithiocarbamates, and phenothiazines.